

Serial no. 09/407,136
Response to Office Action mailed on December 16, 2002
Page 6

REMARKS

Respectfully, Applicants begin by noting that the Examiner has failed to address claims 24-33. A review of the file history shows that claims 24-33 were added to the application by "Amendment and Response to Office Action Mailed on January 2, 2002." Moreover, in the "Amendment and Response to Office Action Mailed June 21, 2002," Applicants noted the Examiner's failure to address these claims. By failing to supply a rejection for claims 24-33 in two consecutive office actions, Applicants believe that these claims are in condition for allowance.

In the Office Action, claims 2-21 and 23 were rejected. Moreover, claims 4-8 and 22 were withdrawn from consideration. By the present Response, claims 2, 21, 23, 30, 31 and 33 have been amended. Additionally, claims 4-8 and 22 have been cancelled without prejudice. Although Applicants may not necessarily agree with the Examiner's basis in withdrawing these claims, in the interest of expediting prosecution, Applicants have cancelled these claims without prejudice. Lastly, new claims 34-36 have been added. These new claims are believed fully supported by the application as filed. Accordingly, no new matter has been added. Upon entry of the amendments, claims 2, 21 and 23-36 remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

Examiner's Restriction Requirement

In the Office Action, the Examiner indicated that the Amendment filed in Paper No. 19 necessitated a restriction requirement. The Examiner restricted the then pending claims into two groups, a first group related to a combination and a second group related to a subcombination of the first group. Specifically, claims 2, 21 and 23 were indicated as being, "drawn to a process of constructing a segmented wound member, classified in class 29, subclass 596" and "claims 4-8 and 22 were indicated as being drawn to a process of winding segments of a segmented bond member, classified in class 29, subclass 605." See Paper No. 23, page 2.

Serial no. 09/407,136
Response to Office Action mailed on December 16, 2002
Page 7

In support of this restriction, the Examiner stated that, "the combination (Group I) as claimed does not require the particulars of the subcombination (Group II) as claimed because Group I does not require the specifics of winding each segment of the plurality of segments during the step of rotating the segments, perpendicular with respect to the axis to form the segments electrically in series with one another." See Paper No. 23, pages 2-3 (parentheticals in original). The Examiner further stated that, "[t]he subcombination has separate utilities such as winding and rotating the segments simultaneously with a wire dispenser." See *id.*

In light of the Examiner's foregoing statements, Applicants respectfully assert that the Examiner has misunderstood the claims of the present application. Respectfully, Applicants direct the Examiner's attention to lines 7-15 of page 10 as presenting an exemplary section through which the instant claims may be further clarified. Moreover, keeping the above cited section of the application in mind, Applicants respectfully assert that pending claims 2, 21, and 23-33, as well as claims 34-36 are not subject to restriction by the Examiner. Accordingly, Applicants assert that the claims, as pending, are appropriately presented.

Rejections Under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claim 2 under 35 U.S.C. § 102(b) as being anticipated by Shramo et al. (U.S. Patent No. 5,425,165). Applicants respectfully assert that amended claim 2 is patentable over the cited reference.

A *prima facie* case of anticipation under 35 U.S.C. § 102 requires a showing that each limitation of a claim is found in a single reference, practice or device. *In re Donohue*, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985). Applicants respectfully assert that the cited reference does not disclose each and every feature recited in the instant claim.

Serial no. 09/407,136
Response to Office Action mailed on December 16, 2002
Page 8

For example, amended independent claim 2 recites, *inter alia*, "winding N sets of stator segments, each segment comprising a bobbin." The cited reference does not disclose this feature. Rather, the cited reference discloses a coil winding 22 which is wound around a coil form 62. *See* Shramo et al., column 7, lines 62-66. Subsequently, the form 62 is removed and the coil 22 is flattened. *See id.*, column 9, lines 15-18. Resultantly, the coil 22 presents a relatively flat profile. *See id.* The flattened coil 22 is then wrapped around a cylindrical core 66, as is shown in Figures 12 and 14 of the cited reference. *See id.*, column 9, lines 35-37; *see also id.*, Figs. 12 and 14. By contrast, the bobbin of claims 2 remains assembled with the coil, and, ultimately becomes an integral part of the stator. Accordingly, each coil 22 of Shramo in no way comprises a bobbin as recited in the instant claim. *See id.* Fig. 14.

Additionally, independent claim 2 recites, "combining the N sets of segments in a common circumferentially adjacent circular arrangement to form the wound member." The cited reference does not disclose this feature. Rather, the cited reference discloses coil windings 22 that are disposed in a radially extending stack. *See* Shramo et al., column 9, lines 35-53. In particular, with reference to Figure 14 of the cited reference, it is clearly shown that windings of each coil phase ($\phi 1$, $\phi 2$, $\phi 3$) of the stator are stacked radially with respect to the windings of the other phases. These windings are not, therefore, in a common circumferentially adjacent circular arrangement as recited in claim 2. Accordingly, the cited reference does not disclose all of the features recited by the instant claim.

For the foregoing reasons, Applicants respectfully assert that independent claim 2 and its respective dependent claims 21 and 24-29 are patentable over the cited reference. Reconsideration and allowance are respectfully requested.

Turning next to new claim 34, this claim, similar to independent claim 2, recites a stator segment comprising a bobbin. As discussed above, the cited reference does not

Serial no. 09/407,136
Response to Office Action mailed on December 16, 2002
Page 9

disclose this feature. Rather, the cited reference discloses coil windings which do not include bobbins but instead are arranged in a flat profile about a core. Thus, Applicants respectfully assert that independent claim 34 and its respective dependent claims 30-33, 35 and 36 are patentable over the cited reference. Allowance of these claims is respectfully requested.

Rejections Under 35 U.S.C. § 103

The Examiner, within the Office Action, rejected a number of claims under 35 U.S.C. § 103 in light of various references. Applicants will address each of these rejections in turn.

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985).

First Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected dependent claim 21, a claim which depends from claim 2, under 35 U.S.C. § 103(a) as being unpatentable over Shramo et al., in view of Japanese Patent Publication JP60-182119 (JP '119). Applicants respectfully assert that the pending claim is patentable over the cited reference combination. Respectfully, Applicants note that the JP '119 patent does not present any reason to believe that this reference obviates the deficiencies of the Shramo et al. reference as

Serial no. 09/407,136
Response to Office Action mailed on December 16, 2002
Page 10

discussed above. From the limited translated disclosure of the JP '119 reference, there is no reason to believe the bobbin is a component of a stator. To do as the Examiner suggests, would be to read into the reference elements that are not disclosed therein. Accordingly, Applicants respectfully assert that dependent claim 21 is not only patentable based on its dependence to allowable independent claim 2, but also by virtue of the additional features recited therein. Reconsideration and allowance are respectfully requested.

Second Rejection under 35 U.S.C. § 103

In the Office Action, the Examiner rejected independent claim 23 under 35 U.S.C. § 103(a) as being unpatentable over Shramo et al. in view of Japanese Patent Publication JP 57-42112 (JP '112). Applicants respectfully assert that the pending claim is patentable over the cited reference combination.

As discussed above, a valid 103 rejection requires that the cited reference combination discloses each and every feature recited in a rejected claim. With regards to the instant claim, Applicants respectfully assert that not all of the features of independent claim 23 are disclosed in the cited reference combination.

For example, independent claim 23 recites, *inter alia*, "winding N sets of segments, each segment of the N sets of segments comprising a bobbin" as well as, "combining the N sets of segments in a common circumferentially adjacent circular arrangement to form the wound member." Both of these features are similar to features recited in independent claim 2. As discussed with respect to independent claim 2, the Shramo reference fails to disclose either one of these features. Moreover, there is no reason to believe the JP '112 reference is able to obviate the deficiencies of the Shramo et al. reference.

Serial no. 09/407,136
Response to Office Action mailed on December 16, 2002
Page 11

Essentially, the JP '112 reference appears to illustrate a mechanism that merely moves in a planar orientation. In other words, no rotating mechanism is shown within this reference. This is based upon the fact that no means of rotation is shown with respect to the shaft 28 and no arrow indicating a direction of rotation is illustrated in any of the drawings. Moreover, the abstract of the reference as well as the figures tend to indicate that movement of the assembly is merely in the X and Y planar directions. Based on the foregoing, Applicants respectfully assert that the Shramo et al. reference in combination with the JP '112, reference do not render the instant claim obvious. Accordingly, reconsideration and allowance of independent claim 23 are respectfully requested.

Serial no. 09/407,136
Response to Office Action mailed on December 16, 2002
Page 12

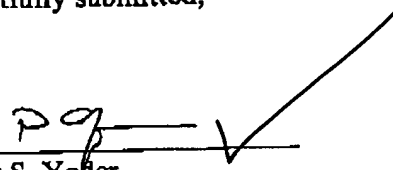
Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Attached hereto is a marked-up version of the changes made to the drawings and claims by the current amendment. The attached page is captioned **"VERSION WITH MARKINGS TO SHOW CHANGES MADE"**.

Date: April 16, 2003

Respectfully submitted,


Patrick S. Yoder
Reg. No. 37,479
Fletcher, Yoder & Van Someren
P.O. Box 692289
Houston, TX 77269-2289
(281) 970-4545

CORRESPONDENCE ADDRESS
ALLEN-BRADLEY COMPANY, LLC
Patent Department/704P Floor 8 T-29
1201 South Second Street
Milwaukee, Wisconsin 53204
Attention: Alexander M. Gerasimow
Phone: (414) 382-2000

Serial no. 09/407,136
Response to Office Action mailed on December 16, 2002
Page 13

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

The claims have been amended as follows:

2. (Twice Amended) A method of constructing a segmented wound member of an N phase electromechanical device, comprising:
- (A) winding N sets of stator segments, each segment defining comprising a bobbin, the N sets of segments being wound with a single continuous length of wire for each set such that the segments of each set are electrically in series, including
 - (1) arranging a plurality of segments in a side-by-side orientation along central axis, the plurality of segments forming one of the N sets of segments;
 - (2) winding the plurality of segments about the central axis;and
 - (3) repeating steps (1) and (2) for each of the remaining sets of segments; and
 - (B) combining the N sets of segments in a common circumferentially adjacent circular arrangement to form the wound member.
21. (Thrice Amended) The method of claim 2, wherein, during the winding ~~rotating~~ step (2), relative rotation between the plurality of segments and the wire dispenser is established by virtue of the plurality of segments rotating and the wire dispenser remaining stationary.

Serial no. 09/407,136

Response to Office Action mailed on December 16, 2002

Page 14

23. (Twice Amended) A method of constructing a segmented wound member of an N phase electromechanical device, comprising:

(A) winding N sets of segments, each segment of the N sets of segments ~~defining~~ comprising a bobbin, the N sets of segments being wound with a single continuous length of wire for each set, the winding step including

(1) arranging a plurality of segments in a side-by-side orientation along an axis of rotation, the plurality of segments forming one of the N sets of segments,

(2) rotating the plurality of segments about the axis of rotation, and

(3) winding the plurality of segments, including

(a) winding a segment while the wire dispenser is positioned adjacent the segment and the segment is rotating, the segment being one of the plurality of segments, then

(b) if a next segment of the plurality of segments remains to be wound, then moving the wire dispenser in a direction parallel to the axis of rotation to a position adjacent the next segment, and then returning the winding step (A)(3)(a) to wind the next segments, such that the winding step (A)(3)(a) and the moving step (A)(3)(b) are performed until all of the segments of the plurality of segments have been wound, and

(4) repeating the arranging step (A)(1), the rotating step (A)(2), and the winding step (A)(3) for each of the remaining sets of segments; and

(B) combining the N sets of segments in a common circumferentially adjacent circular arrangement to form the wound member; and

wherein each of the N sets of segments is wound separately from remaining ones of the sets of segments and then combined in the common circular

Serial no. 09/407,136
Response to Office Action mailed on December 16, 2002
Page 15

arrangement with the remaining ones of the sets of segments to form the wound member.

30. (Amended) The method of claim 3 [4], further comprising combining the plurality of segments in a circular arrangement to form the wound member.

31. (Amended) The method of claim 3 [4], wherein the segments are held in a rotary clamp during the winding step.

33. (Amended) The method of claim 3 [4] wherein the segments engage one another during the winding step.

34. (New) A method of winding segment of a segmented wound member of an electromechanical device, comprising:

(A) arranging a plurality of stator segments in a side-by-side orientation along an axis of rotation, each stator segment of the plurality of stator segments comprising a bobbin; and

(B) winding a wire dispensed from a wire dispenser into each of the plurality of segments with respect to the axis of rotation such that the plurality of segments are electrically in series.

35. (New) The method of claim 34, wherein the arranging and winding steps are performed N times, N being equal to a number of phases of the electromechanical device, and wherein a total of N sets of M segments are wound for the electromechanical device, M being determined by a number of poles of the electromechanical device and being equal to the number of segments that are arranged and wound during each performance of the arranging and winding steps, and wherein the N sets of M segments are combined into the common circular arrangement.

Serial no. 09/407,136

Response to Office Action mailed on December 16, 2002

Page 16

36. (New) The method of claim 34, wherein, during the winding step, relative rotation between the plurality of segments and the wire dispenser is established by virtue of the plurality of segments rotating and the wire dispenser remaining substantially stationary.